

Flight Scientist Report  
Monday 03/14/2022 ACTIVATE RF140

Flight Type: Statistical Survey Flight

Flight Route:

Special Notes: Second of two flights today. Better conditions down south working through OXANA as compared to working more north outside of ZIBUT.

**King Air**

Pilot report (Thorson):

Flown in block 240-280 due to high cirrus. route went oxana and paralleled warning area to south and back.

Flight scientist report (Seaman):

RF140

3/14/2022 Flight 2 of 2

Takeoff: 17:22 utc

Flight path:

KLFI ECG OXANA ROBBB 32.67N/75.68W ROBBB OXANA ECG KLFI

Ops Notes:

Uc12 lead by about 10 minutes going into turn around point. Falcon passed uc12 on return home.

Uc12 descended to FL240 to avoid cirrus on leg to OXANA. Got clearance for block FL240 to 280 starting about 10 minutes before outbound turn at OXANA.

Instrument notes:

All instruments operated nominally during flight. RSP had a cmd1 fail light on, data had values that were not typical many reading "offscale", software restart did not fix issue but a full hardware restart did fix issue.

HSRL-2 Cals and baseline done in endpoint turn.

Science notes:

Cirrus at 240 between ECG and OXANA. Cloud deck on main leg at roughly 7000 ft.

Sonde drops:

- 1) Oxana (outbound)
- 2) Turnaround at end
- 3) Coast

### **Falcon**

Pilot report (Slover):

ACTIVATE research flight completed as planned, plus some extra. KLF1 ECG OXANA ROBBB 3240N07541W ROBBB OXANA ECG KLF1, with an extension past 3240N07541W to 3226N07602W in order to regain coincidence with King Air. Statistical survey along track. Clouds mostly from 3000' to 6000'. Upon return, a fire noticed on the way out was sampled at the plume level off altitude of 2000', fire location approximately 3618N07558W with winds to the NE at 10, with sampling for approximately 3 nm.

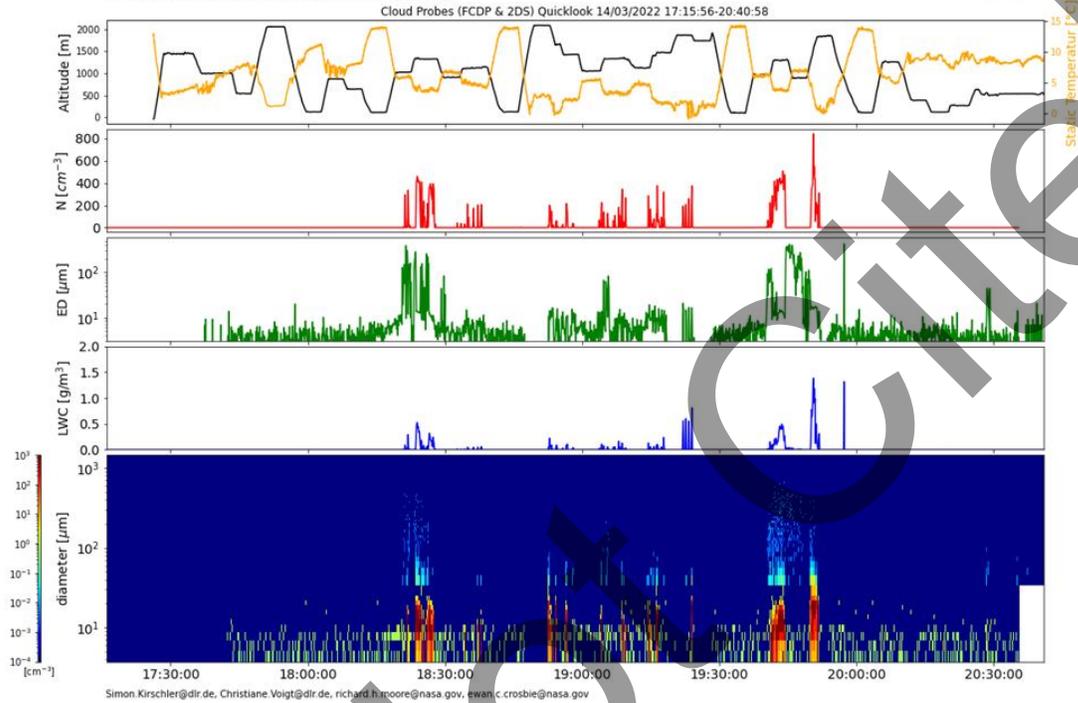
Flight scientist report (Crosbie):

Stat survey OXANA-SW. Similar conditions to the morning. The band near OXANA continued to the southwest and comprised of some regions of small Cu topping a mixed layer with scattered cloud extent and then some regions where the cloud cover was more spread out near the inversion. In these regions, some of the cloud elements were more active and some cells were punching up into the inversion which was visible from the ACT legs. Smoke plume emanating from a small woodland fire sampled on the inbound leg over N.E. N. Carolina.

# Quicklook ACTIVATE Cloud Probes (FCDP & 2DS) Quicklook

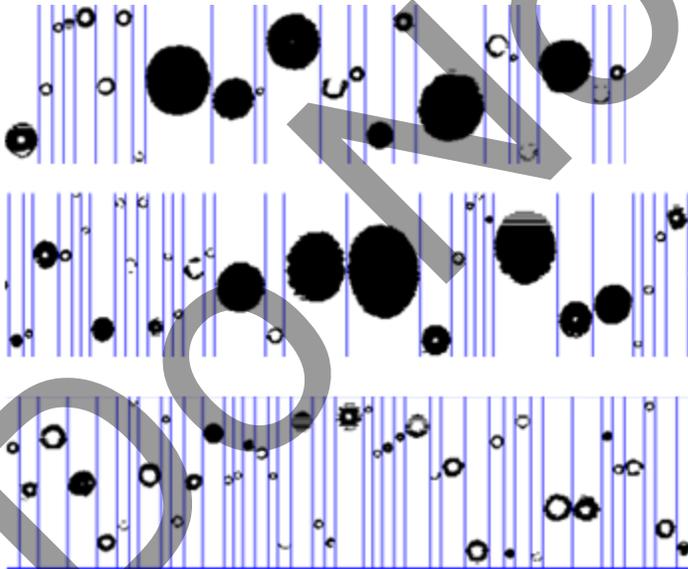
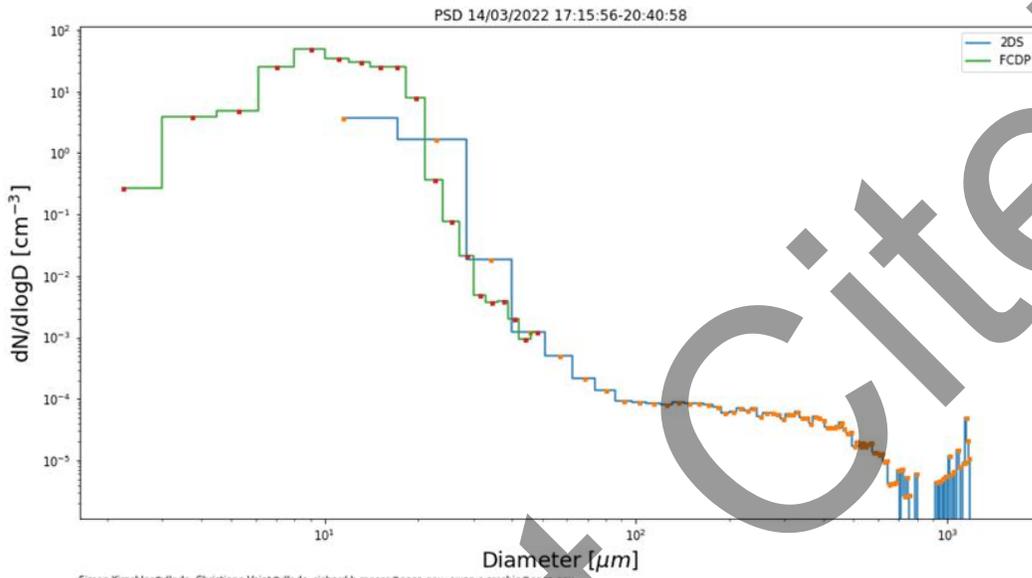
preliminary data, only for quicklook use

Simon Kirschler, Christiane Voigt, Richard Moore, Ewan Crosbie



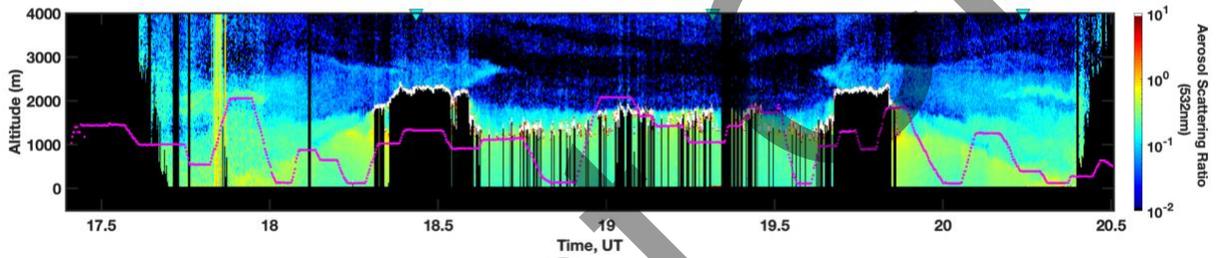
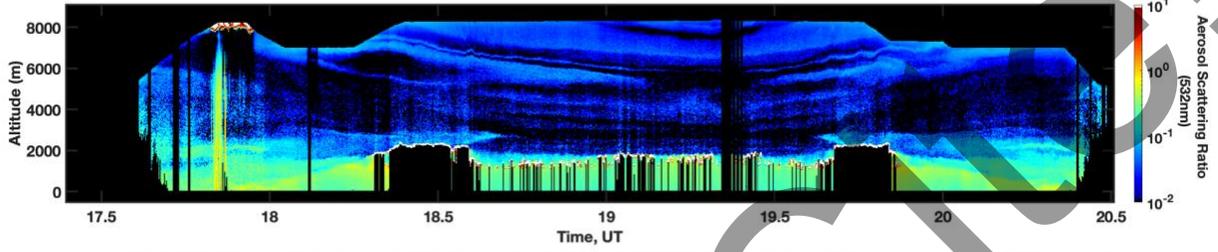
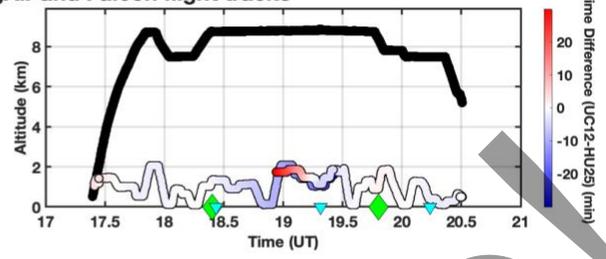
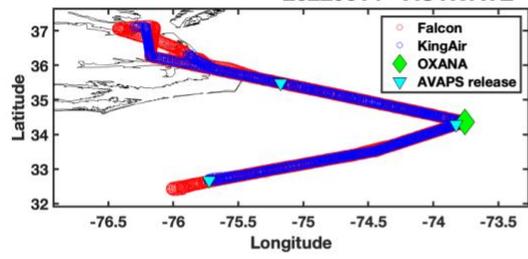
# PSD ACTIVATE

preliminary data, only for quicklook use  
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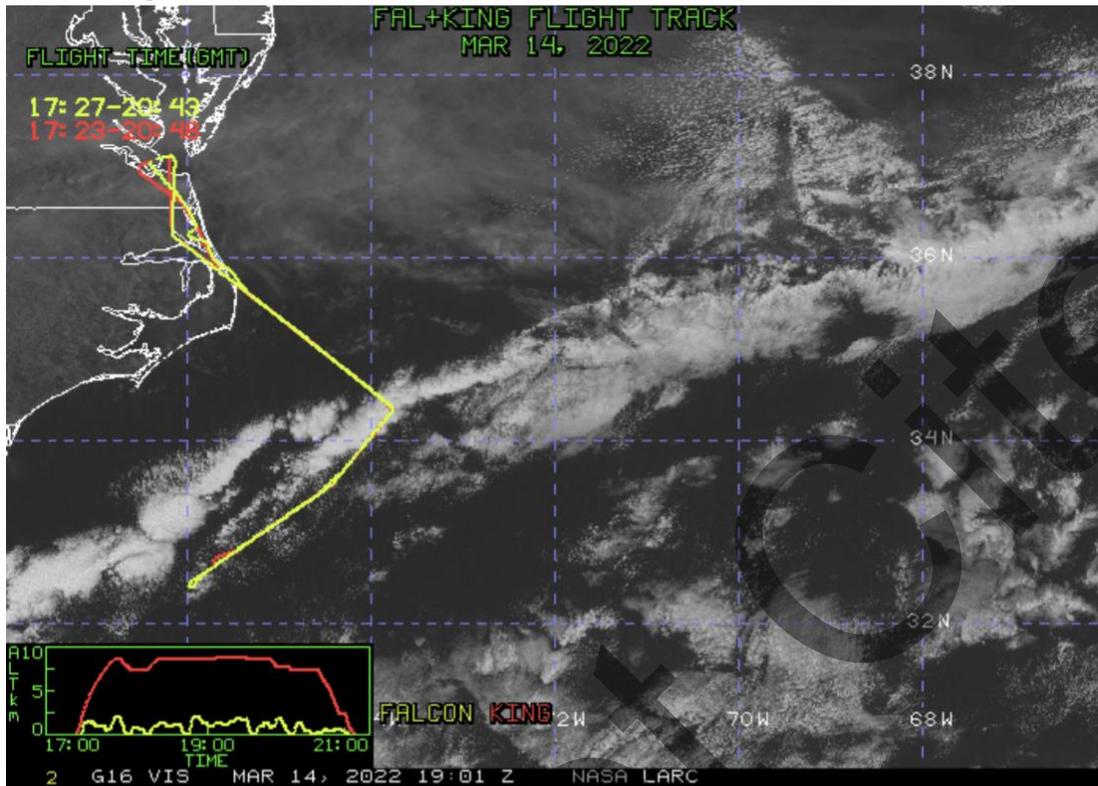
Only pure liquid clouds with Precip.

### 20220314 - ACTIVATE - KingAir and Falcon flight tracks

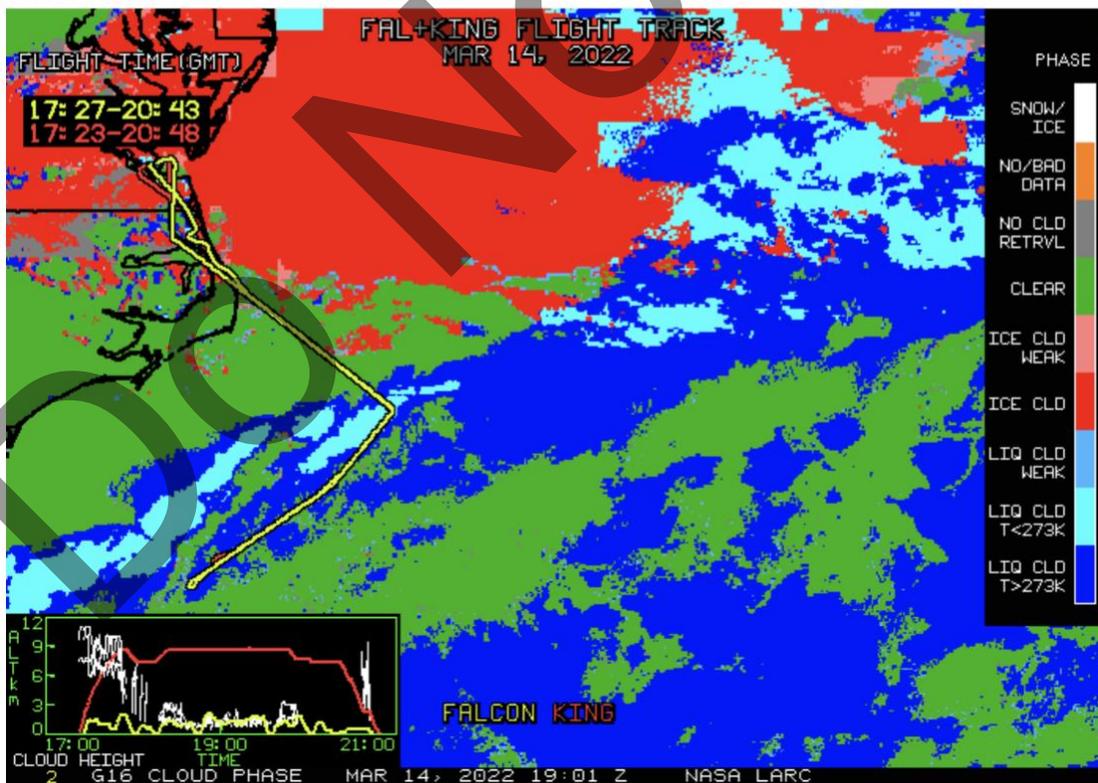


DO NOT

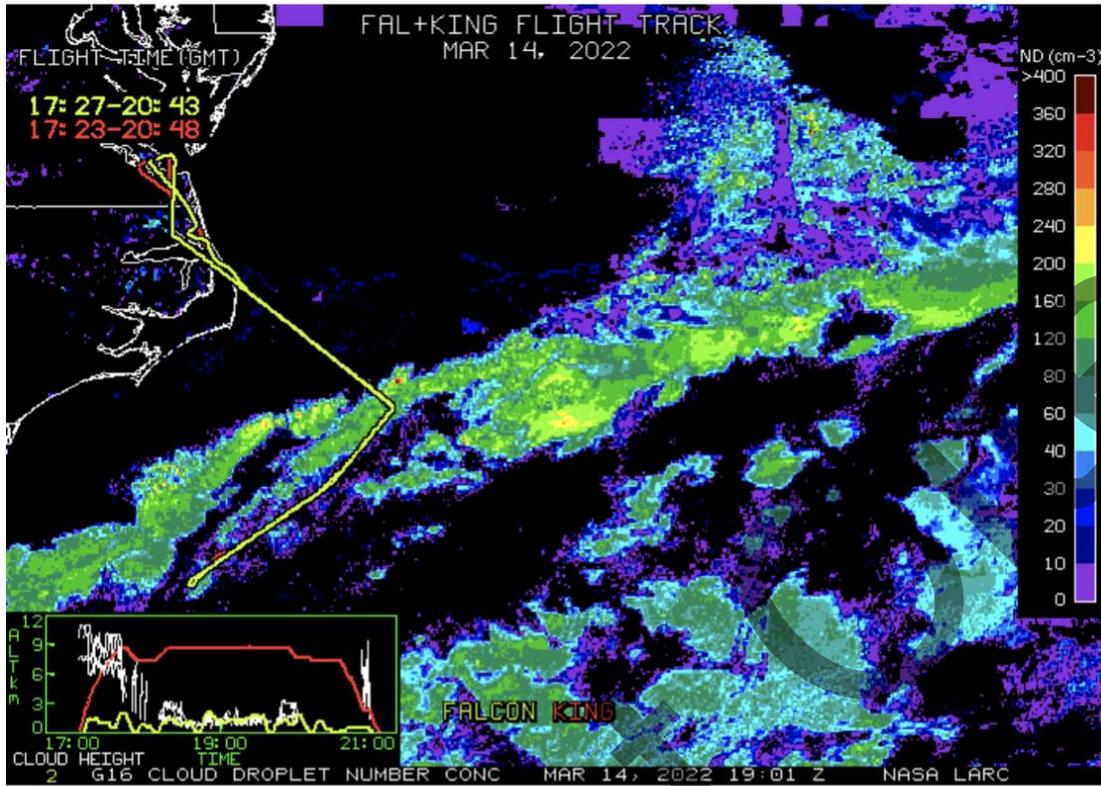
NASA-LaRC Clouds Group GOES-16 Quicklook Images for Flight 140, 19:01 UTC Mar 14, 2022  
Visible Image



Cloud Phase



### Cloud Droplet Number Concentration (cm-3)



### Cloud-Top Height (Kft-ASL)

